Constellation.	White.	Yellow.	Orange.	Red.	Green.	Blue.	Purple.	Others.	Total.
Ursa Major	40	27	4	—	1	2	2	—	76
Corvus	5	1	—	—	—	—	1	—	7
Virgo	22	20	3	—	—	1	—	—	46
Coma Berenices	10	12	2	—	—	—	3	—	27
Canes Venatici	12	7	7	—	—	1	—	1	28
Libra	8	5	—	—	—	—	—	—	13
Boötes	29	23	4	—	—	1	6	—	63
Corona Borealis	10	9	2	—	—	1	1	—	23
Ursa Minor	8	7	1	—	—	—	—	—	16
Scorpio	7	2	—	—	—	1	1	—	11
Serpens	16	12	2	—	—	—	—	—	30
Ophiuchus	23	14	2	—	—	—	1	—	40
Hercules	47	23	12	—	2	—	1	—	85
Draco	40	32	9	—	—	4	3	—	88
Sagittarius	5	3	—	—	—	—	—	—	8
Aquila	28	22	3	—	—	—	1	—	54
Sagitta	3	5	1	—	—	1	—	—	1
Lyra	16	10	1	1	—	2	—	1	31
Capricornus	10	7	3	—	—	2	—	—	22
Delphinus	8	5	—	—	1	—	1	—	15
Equuleus	1	6	—	—	1	1	1	—	10
Vulpecula	16	9	2	—	—	1	—	—	28
Cygnus	45	29	10	—	3	6	3	2	98
Aquarius	29	17	4	—	—	3	2	—	55
Pegasus	28	30	11	—	—	—	1	—	70
Lacerta	12	3	5	—	—	—	—	—	20
Cepheus	28	18	3	—	—	3	2	—	54
Grand Total	962	614	168	10	15	59	58	7	1,893

Note on the Radiation of Meteors. By W. F. Denning.

In a short paper on the Biela meteors (*Monthly Notices*, Jan. 1886, p. 118) Mr. Proctor remarks that the diffuse character of the radiation "appears unquestionably due to changes of direction caused by atmospheric resistance," and then hastily assumes that a radiant-area of two degrees diameter cannot "safely be assigned to meteors having the so-called stationary radiants."

But Mr. Proctor quite misses the fact that these meteors of Biela's comet enter the atmosphere at the rate of only about eleven miles per second, while the apparent velocities of the very great majority of the other known meteor streams must average

at least thirty miles per second. The effects of air resistance in deflecting the courses must be vastly less, in the case of these swifter meteors, than that affecting the exceptionally slow meteors falling from γ *Andromedæ* on Nov. 27, where such disturbances will evidently reach a maximum. The nature of the radiation observed in regard to the latter is special* and cannot for a moment be supposed to represent that of meteor swarms generally. The shooting stars belonging to ordinary and fairly typical showers exhibit radiants confined to very limited areas; for in cases where the individual flights are recorded with great accuracy they are invariably found to intersect nearly at a point.

As to the stationary radiant points, which I confidently uphold as the unavoidable outcome of my observations, they cannot be obliterated from the sky but by more effectual objections than that such anomalies are not moulded according to the theories which have been imperfectly applied to a branch of astronomy of very modern date. If these radiants are inexact, or if a wrong construction has been put upon their singular affinities of grouping, the fact may be determined by further observation. We are not yet in a position to assume that our knowledge of theory comprehends every possible form and condition of meteoric phenomena presented to the earth.

I cannot but feel indebted to Mr. Proctor for his frequent references to this subject, for it is likely to suffer most by that indifference and apathy with which complex details of observation are too often treated. But he will do best service by enforcing on observers the necessity of subjecting the disputed features to further critical investigation rather than by raising obstacles, many of which have no weight. We require not only careful re-determinations of the radiants, but new and reliable data as to the velocity of meteors. I believe that the tendency in past years has been to overestimate the durations, and that, were the records true to fact, many instances of hyperbolic fireballs (with their associated currents of small meteors) would have resulted from the computations. But though the speed, in certain cases, may have exceeded that which has been assigned, it is scarcely possible it can have been so great as that which Mr. A. C. Ranyard and others have pointed out as necessary to explain the occurrence of meteors from fixed, long-enduring radiants.

Bristol: March 15, 1886.

* Its diffuseness is admitted, but the meteors are so numerous that the central radiants, as deduced by different observers (many of whom may claim little experience in determinations of this sort), are in excellent agreement. See the comparative table of positions for the shower of November 27, 1885, compiled by the writer for the *Astronomical Register*, April 1886, pp. 95–6.

Observations of Comets d, 1885 (Fabry), and e, 1885 (Barnard), made at the Royal Observatory, Greenwich.

(Communicated by the Astronomer Royal.)

The observations on March 11, March 23, April 1, and April 3, were made with the East or Sheepshanks Equatorial, aperture 6·7 inches, and those on March 9 with the Lassell Reflector, aperture 24 inches, by taking transits over two cross-wires at right-angles to each other, and each inclined 45° to the parallel of Declination.

Comet d, 1885.

Greenwich Mean Solar Time. 1886.	Observer.	☄−✱ R.A.	Corr. for Par. & Refract. in R.A.	☄−✱ N.P.D.	Corr. for Par. & Refract. in N.P.D.	No. of Comp.	Apparent R.A.	Apparent N.P.D.	Comp. Star.
d h m s		m s	s	′ ″	″		h m s	° ′ ″	
March 11 7 43 47	L.	+0 31·13	+0·16	+10 8·5	− 2·2	6	23 19 1·24	57 32 30·0	*a*
April 3 8 22 45	H.	−3 16·37	+0·03	− 6 25·6	−19·3	3	23 19 50·18	50 53 21·2	*b*

Comet e, 1885.

Greenwich Mean Solar Time. 1886.	Observer.	☄−✱ R.A.	Corr. for Par. & Refract. in R.A.	☄−✱ N.P.D.	Corr. for Par. & Refract. in N.P.D.	No. of Comp.	Apparent R.A.	Apparent N.P.D.	Comp. Star.
March 9 9 11 17	H. T.	+0 28·38	+0·24	− 0 26·5	− 3·9	4	1 54 15·62	66 41 56·5	*c*
23 8 40 49	H. T.	+0 8·08	+0·19	+ 7 5·0	− 2·8	5	1 51 38·96	62 9 18·5	*d*
April 1 8 39 8	H. T.	+1 2·75	+0·24	+ 1 19·4	− 3·9	4	1 50 16·67	58 56 31·5	*e*
3 9 16 39	H.	+0 41·77	+0·16	+ 2 42·0	− 2·9	3	1 49 51·72	58 10 47·1	*f*